# T30/T10 Intelligent Flight Battery

User Guide

使用說明

ユーザーガイド

사용자 가이드

คู่มือการใช้งาน

Hướng dẫn sử dụng

Benutzerhandbuch

Guía de usuario

Guide d'utilisateur

Guida all'uso

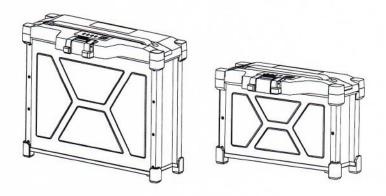
Gebruikershandleiding

Manual do utilizador

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V1.0 2021.01





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#### Read Before First Use

The following terms are used in this document and on the warning labels on the product to indicate various levels of potential harm when operating this product:

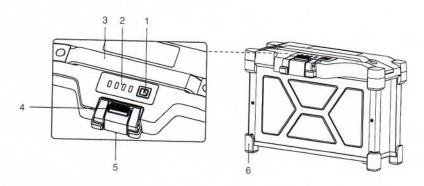
- ① CAUTION: Procedures which, if not properly followed, create a possibility of physical property damage AND a small possibility of injury.
- ⚠ WARNING: Procedures which, if not properly followed, create the probability of property damage, collateral damage, and serious injury OR a high probability of superficial injury.

This product must be operated with caution and expertise. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by those who are under 18 years old. DO NOT alter this product or use this product with incompatible components. This document contains instructions for safety, operation, and maintenance. It is essential to read and follow all of the instructions and warnings herein, prior to assembly, setup, or use, in order to operate the product correctly and avoid damage or serious injury.

#### Introduction

The T30 Intelligent Flight Battery applies to DJI AGRAS™ T30 and has a capacity of 29000 mAh at a nominal voltage of 51.8 V, while the T10 Intelligent Flight Battery applies to DJI Agras T10 and has a capacity of 9500 mAh with the same voltage. The metal shell and rubber caps effectively protect the battery, and the high energy battery cells and the advanced power management system provide long-lasting power to an aircraft.

The T10 Intelligent Flight Battery is used as an example below.



#### 1. Power Button

Press to check the battery power level. Press and then press and hold to power on the battery. Only power the battery on and off when it is connected to the aircraft. Otherwise, the power ports on the battery and the aircraft will be damaged.

#### 2. Status LEDs

Indicate the battery level. From left to right: LED 1, LED 2, LED 3 and LED 4.

#### 3. Handle

Use the handle to carry the battery.

#### 4. Clamp

Use the clamp to firmly attach the battery to the aircraft. Press the clamp to remove the battery from the aircraft.

#### 5. Power Port

Connects to an aircraft, battery station, or multifunctional inverter generator.

#### 6. Rubber Caps

Protect the battery.

#### **Battery Functions**

- 1. Battery Level Display: The status LEDs indicate the current battery level. Press the power button to check.
- Communication: Battery parameters including the voltage and power level are transmitted to the aircraft to enable the aircraft to take appropriate action when battery parameters change.
- 3. Charging Error Detection: Errors that occur during charging are indicated by the status LEDs. When an error occurs, disconnect the battery and wait for the battery to fix the error automatically. For more information, refer to the LED Patterns section.
- 4. Battery Error Records: The battery records errors such as excessive charging or discharging, exceeding the temperature range when charging and discharging, and storing a battery for an extended period with the power level outside of the recommended range. The battery error records can be accessed by authorized DJI dealers when troubleshooting or repairing.
- Auto Balancing: In certain situations, the battery automatically balances the voltages of the cells.
- Auto Discharging: If fully charged for more than one day, the battery automatically discharges to 97%. After 7 days, it automatically discharges to 60%.
- 7. Auto Current Adjustment: When using with the provided battery station, the battery intelligently adjusts the charging current based on the temperature of the battery cell. The battery also supports self-protection based on the environment temperature.
- 8. Temperature Control: The battery ensures the temperature difference between the battery cells are the same and stay within the allowable temperature range.
- Refer to the safety requirements listed on the label of the battery before using for the first time. Users accept full responsibility for any violations of the safety requirements stated on the label.
  - The product warranty is void if any battery errors occur due to misuse of the battery.

#### Using the Battery

Press and then press and hold the power button to power on the battery after it is connected to the aircraft. When the aircraft lands and the motors stop, press and then press and hold the power button to power off the battery, and then disconnect the battery from the aircraft.

- DO NOT use or leave the battery near heat sources such as a furnace or heater. DO NOT leave the battery inside a vehicle on hot days.
  - DO NOT allow the battery to come into contact with any liquid. DO NOT leave the battery near a source of moisture and DO NOT use the battery in humid environments. Otherwise, the battery may corrode, potentially resulting in the battery catching fire or exploding.

- DO NOT use swollen, leaking, or damaged batteries. If your battery is abnormal, contact an authorized DJI dealer for further assistance.
  - Make sure the battery is powered off before connecting to or disconnecting from the aircraft. DO NOT connect or disconnect the battery while it is powered on. Otherwise, the power ports may be damaged.
  - The battery should be used in the temperature range of -5° to 45° C (23° to 113° F). Use
    of batteries in environments above 50° C (122° F) can lead to fire or an explosion. Use of
    the battery in temperatures below -5° C (23° F) can negatively affect the performance of
    the battery. The battery can be used again when it returns to a normal temperature.
  - DO NOT use the battery in strong electrostatic or electromagnetic environments or near high-voltage transmission lines. Otherwise, the battery circuit board may malfunction, which could cause a serious flight hazard.
  - DO NOT disassemble or pierce a battery in any way or it may leak, catch fire, or explode.
  - The electrolytes in the battery are highly corrosive. If any electrolytes make contact with your skin or eyes, immediately wash the affected area with water and see a doctor immediately.
  - DO NOT use a battery that has been dropped. Dispose of the battery as described in the Battery Disposal section.
  - If the battery falls into water while inserted in an aircraft during flight, take it out immediately, and put it in a safe and open area. DO NOT use the battery again and dispose of it properly as described in the Battery Disposal section.
  - DO NOT put the battery in a microwave oven or a pressurized container.
  - DO NOT place the battery on or near wires or other metal objects such as eyeglasses, watches, jewelry, and hairpins. Otherwise, the battery ports may be short-circuited.
  - DO NOT drop or strike batteries. DO NOT place heavy objects on the batteries or station. Avoid dropping batteries.
  - Always use a clean, dry cloth when cleaning the battery terminals.
  - DO NOT fly when the battery power level is below 15%.
  - Make sure the battery is correctly connected. Otherwise, the battery may overheat or even explode due to abnormal charging. Only use approved batteries from authorized dealers. DJI assumes no responsibility for any damaged caused by using batteries that are unapproved.
  - Make sure to lift the battery by the handle. DO NOT lift it by holding the cables.
  - Make sure the battery is placed on a flat surface.
  - DO NOT place anything on a battery. Otherwise, the battery may be damaged, which may lead to fire hazards.
  - The battery is heavy. Be careful when moving the battery to avoid dropping it. If the battery is dropped and damaged, immediately leave the battery in an open area away from people. Wait 30 minutes and soak the battery in water for 24 hours. After making sure the power has completely run out, dispose of the battery in accordance with local laws.

- ① Make sure the battery is fully charged before each flight.
  - Immediately land the aircraft if a critical battery level warning appears and replace with a fully charged battery.
  - Before operating in a low-temperature environment, make sure the battery is at least above 5° C (41° F). Ideally, above 20° C (68° F).

# **LED Patterns**

The Battery Level Indicators will show the current battery level and status during charging and discharging. The indicators are defined below:

LED is on

[] LED is off

#### Checking Battery Level

If the battery is in power saving mode, press the power button once to check the current battery level.

LED1	LED2	LED3	LED4	Battery Level
0	0	0	0	88-100%
0	0	0	Ü	75-87%
0	0	0	0	63-74%
0	0	Û	0	50-62%
0	0	0	0	38-49%
0	Û	0	0	25-37%
0	0	0	0	13-24%
0	0	0	0	0-12%

# LED Patterns During Charging

During charging, the LEDs blink in sequence to indicate the current battery level. Disconnect the battery when charging is complete, and always use the officially recommended charging device to charge the battery.

LED1	LED2	LED3	LED4	Battery Level
Ü	<b>#</b>	0	0	0-49%
0	Ü	Û	0	50-74%
Ü	Ü	Û	Ū.	75-99%
0	0	0	Ō	100%

# Battery Error LED Patterns

The table below shows battery protection mechanisms and corresponding LED patterns.

LED1	LED2	LED3	LED4	Blinking Pattern	Battery Exception Item
0	Û	0	0	LED2 blinks twice per second	Overcurrent detected
0	Û	0	0	LED2 blinks three times per second	The battery system is abnormal
0	0	Û	0	LED3 blinks twice per second	Overcharged detected
0	0	0	0	LED3 blinks three times per second	Charging device over-voltage
0	0	0	•	LED4 blinks twice per second	Charging temperature is too low
0	0	0	Ũ	LED4 blinks three times per second	Charging temperature is too high
Û	Ü	Û	Û	All 4 LEDs blink fast	The battery is abnormal and unavailable

In the event of charging temperature protection occurring the battery will resume charging once the temperature has returned to within the allowable range. If one of the other battery protection mechanisms activates, to resume charging once the issue has been resolved it is necessary to first press the Power button to turn the battery off, unplug the battery from the charging device, and then plug it back in to resume charging.

- ♠ DJI does not take any responsibility for damage caused by third-party charging devices.
  - DO NOT charge the battery near flammable materials or on flammable surfaces such as carpet or wood. DO NOT leave the battery unattended during charging. There should be a distance of at least 30 cm between the battery station and any charging batteries. Otherwise, the battery station or charging batteries may be damaged by excessive heating and may even lead to a fire hazard.
  - DO NOT charge the battery immediately after flight. The battery temperature may be too high and may cause serious damage to the battery. Allow the battery to cool down to close to room temperature before charging. Charge the battery at a temperature range of 0° to 60° C (32° to 140° F). The ideal charging temperature range is 22° to 28° C (72° to 82° F). Charging at the ideal temperature range can prolong battery life.
  - In scenarios that meet the following two conditions simultaneously, the battery can be charged immediately after flight:
    - a. The temperature of the flight environment was below 30° C.
    - b. The temperature of the charging environment is below 30° C and there is no direct sunlight.
  - DO NOT charge the battery near heat sources such as a furnace or heater.
  - Regularly check the terminals and battery ports. DO NOT clean the battery using alcohol
    or other inflammable liquid. DO NOT use a damaged battery station.
  - Keep the battery dry at all times.

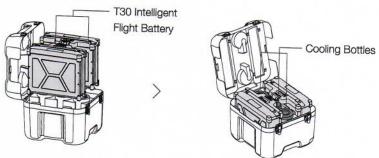
- The battery stops charging when charging is complete. It is recommended to disconnect the battery once charging is complete.
  - Make sure the battery is powered off before charging. Otherwise, the battery ports may be damaged.

### **Battery Storage**

Disconnect the battery from the aircraft and check if there is any buildup in the battery port.

Make sure to follow the illustration below when transporting or storing a T30 Intelligent Flight Battery.

When using the battery safety box, make sure that the cooling bottles inside the box have been filled with water or salt water.



The battery can also be placed in the battery safety box when charging. Connect the battery with the charging cable of a compatible charging device, place the battery into the battery safety box with the battery power port facing outward, and tighten the lock.

- $\underline{\wedge}$  The battery safety box can only be used with the T30 Intelligent Flight Battery.
  - Power off and disconnect the battery from the aircraft during transportation.
  - Keep batteries out of the reach of children and animals. Seek professional medical support immediately if children swallow parts of the battery.
  - If the battery level is critically low, charge the battery to a power level of 40% to 60%.
     DO NOT store a battery with a low power level for an extended period. Otherwise, the performance will be negatively affected.
  - DO NOT leave the battery near heat sources such as a furnace or heater. DO NOT leave the battery inside a vehicle on hot days.
  - The battery must be stored in a dry environment.
  - DO NOT place the battery near explosive or hazardous material or near metal objects such as eyeglasses, watches, jewelry, and hairpins.
  - DO NOT attempt to transport a battery that is damaged or has more than 30% power.
     Discharge the battery to 30% or lower before transportation.
  - Make sure the battery is placed on a flat surface.

- If storing the battery for more than three months, it is recommended to store the battery in a battery safety bag or battery safety box in an environment at a temperature range from -20° to 40° C (-4° to 104° F).
  - DO NOT store the battery for an extended period after fully discharging. Doing so may over-discharge the battery and cause irreparable damage to the battery cell.
  - If a battery with a low power level has been stored for an extended period, the battery will be in deep hibernation mode. Charge to wake the battery.
  - Disconnect the battery from the aircraft if you intend to store the battery for an extended period.

#### **Battery Disposal**

- Before disposing, make sure to soak the battery in water for 24 hours to completely discharge the battery. Dispose of the battery in specific recycling boxes. DO NOT place the battery in regular waste containers. Strictly follow your local regulations regarding the disposal and recycling of batteries.
- If the battery cannot be discharged completely, DO NOT dispose of the battery in a battery recycling box directly. Contact a professional battery recycle company for assistance.

# **Battery Maintenance**

- DO NOT splash the battery with water. An excessive amount of water will damage the battery.
  - $\bullet$  DO NOT store the battery when the temperature is outside the range of -20° to 45° C (-4° to 113° F).
  - If the battery is not used for an extended period, the battery life may be reduced.
  - Fully charge and discharge the battery at least once every three months to ensure the performance of the battery.
  - If a battery has not been charged or discharged for five months or more, the battery will no longer be covered by the warranty.

# Specifications

Specifications	T30 Intelligent Flight Battery (BAX501-29000mAh-51.8V)	T10 Intelligent Flight Battery (BAX501-9500mAh-51.8V)	
Nominal Voltage	51.8 V		
Battery Type	Lithium E	m Battery 14S	
Discharge Rate	11.5 C		
Operating Temperature Range	-5° C to 45° C (23° F to 113° F)		
Charging Temperature Range	0° C to 60° C (32° F to 113° F)		
Warranty Details		000 charge cycles or 12 months (whichever is sooner)	
IP Rating	IP54 + Board-level potting protection		
Compatible Aircraft	DJI Agras T30	DJI Agras T10	
Compatible Charging Device	T30 Intelligent Battery Station, D9000i Multifunction Inverter Generator	T10 Intelligent Battery Station D4500i Multifunction Inverter Generator	
Capacity	29000 mAh	9500 mAh	
Energy	1502 Wh	430 Wh	
Max Charging Power	7200 W	3600 W	
Battery Charging Time*	9-12 mins when the battery station is connected with two AC power cables; 18-25 mins when the battery station is connected with one AC power cable	7-10 mins	
Weight	Approx. 10.2 kg	Approx. 3.8 kg	

 $<sup>^\</sup>star$  Tested in a lab environment at a temperature of 25° C (77° F) using a T30/T10 Intelligent Battery Station.